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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/832,160	04/09/2001	Salman Akram	3846.2US(98-0796.2)	8501
24247	7590	12/18/2003		EXAMINER
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			ART UNIT	PAPER NUMBER
			2827	

DATE MAILED: 12/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	09/832,160	AKRAM ET AL.	
	Examiner David E Graybill	Art Unit 2827	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 08 September 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 4,9 and 23-34 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-3,5-8 and 10-22 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 09 April 2001 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 a) The translation of the foreign language provisional application has been received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____ . |

Applicant's election without traverse of the species wherein said defining is effected before said positioning, and said introducing comprises chemical vapor depositing, including claims 1-3, 5-8, 10 and 12-22, in the paper filed 9-8-3, is acknowledged.

In addition, claim 11 is readable on the elected species.

Claims 4, 9 and 23-34 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because, in Figure 1, reference characters 10 and 18 designate the same part, in Figures 1A, 6B and 6C, reference characters 110, 118 and 126 designate the same part, in Figure 8A, reference characters 210 and 218 designate the same part, in Figure 8D, reference characters 210' and 218' designate the same part, in Figure 9A, reference characters 310 and 318 designate the same part, and in Figures 10A and 10B, reference characters 410 and 418 designate the same part. Also, The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because each reference character 18 and 118 has been used to designate multiple different parts. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features of the elected species wherein said introducing comprises chemical vapor depositing, and wherein said defining is effected before said positioning must be shown or the features canceled from the elected species claims 1-3, 5-8, 10 and 12-22. No new matter should be entered.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because Figures 6B and 6C do not include reference character 118 mentioned in the description at page 19, lines 1-2.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 10 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The undescribed subject matter is the entire claim.

In the rejections infra, reference labels are generally recited only for the first recitation of identical elements.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 5-8 and 11-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Hashimoto (6255737).

At column 1, lines 38-53; column 1, line 66 to column 2, line 6; column 4, line 63 to column 8, line 20; and column 10, line 52 to column 12, line 8, Hashimoto teaches a method for fabricating a chip-scale package, comprising: positioning a preformed polymeric film 64 over a semiconductor device 1 with at least one aperture 64a that extends substantially longitudinally through said preformed polymeric film aligned with a corresponding bond pad 62 of said semiconductor device; and introducing conductive material 68 into said at least one aperture; adhering said preformed polymeric film to said semiconductor device; defining said at least one aperture through said preformed polymeric film, wherein said defining is

effected before said positioning, wherein said introducing comprises bonding said conductive material to said corresponding bond pad, wherein said introducing comprises depositing said conductive material onto said preformed polymeric film and within said at least one aperture, wherein said depositing comprises physical vapor depositing "sputtering" said conductive material, wherein said introducing is effected after said positioning; forming at least one contact 20 at an end of said conductive material, opposite said semiconductor device; placing a conductive structure 26 adjacent said at least one contact; applying solder 26 to said at least one contact; positioning at least one conductive trace 58 on said preformed polymeric film and in communication with said conductive material; forming at least one contact in communication with said conductive trace; placing a conductive structure adjacent said at least one contact; applying solder to said at least one contact; and placing said preformed polymeric film on at least a portion of a peripheral edge of said semiconductor device; and placing polymeric material 28 at least laterally adjacent said conductive structure.

To further clarify the teaching of placing said preformed polymeric film on at least a portion of a peripheral edge of said semiconductor device, it is noted that in the embodiment of the "Sixth Basic Art" the film is placed on the entire wafer 60 including the edge of the device 1 before dicing.

Claims 1, 10 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Gilleo (5971253).

At column 4, lines 28-35; column 5, lines 45-57; column 6, lines 18-25; and column 8, lines 57-65, Gilleo teaches a method for fabricating a chip-scale package, comprising: positioning a preformed polymeric film 122 over a semiconductor device 142 with at least one aperture 24 that extends substantially longitudinally through said preformed polymeric film aligned with a corresponding bond pad 144 of said semiconductor device; introducing conductive material 126 into said at least one aperture, wherein said introducing is effected before said positioning; and placing said preformed polymeric film on at least a portion of a peripheral edge of said semiconductor device.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the

contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto as applied to claim 17, and further in combination with Jacobs (6294407).

Hashimoto does not appear to explicitly teach placing a conductive elastomer over at least one conductive structure, and placing another conductive structure in contact with said conductive elastomer, opposite said at least one conductive structure.

Nonetheless, at column 5, line 61 to column 6, line 46, and column 14, line 44 to column 15, line 2, Jacobs teaches placing a conductive (thermally) elastomer 106 over at least one conductive structure 104, and placing another conductive structure 112a in contact with said conductive elastomer, opposite said at least one conductive structure.

Furthermore, it would have been obvious to combine the teachings of Jacobs and Hashimoto because it would enable external electrical connection and cooling.

The art made of record and not applied to the rejection is considered pertinent to applicant's disclosure. It is cited primarily to show inventions similar to the instant invention.

Any telephone inquiry of a general nature or relating to the status (MPEP 203.08) of this application or proceeding should be directed to Group 2800 Customer Service whose telephone number is 703-306-3329.

Any telephone inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Graybill at (703) 308-2947, or after about 02/05/04, (571) 272-1930. Regular office hours: Monday through Friday, 8:30 a.m. to 6:00 p.m.

The fax phone number for group 2800 is (703) 872-9306.



David E. Graybill
Primary Examiner
Art Unit 2827

D.G.
10-Dec-03